1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

At sunset all the people went to the dance ground. This was 796 184
arranged on the same plan as at Archie, except that instead of one new ceremonial enclosure, there were two, one to house the more northern villages joining in the feast, one for the southern ones. The division was geographical and had nothing to do with moiety. The enclosures were of the same roofless type used at Archie and stood in the same position, with their openings facing away from the dance ground, so that the singers might dress unseen and emerge in full panoply.

To the northeast of the center stood the tuft of turkey feathers, and to the west, not the ceremonial house, since this happened to stand in the crowded village, but a shelter where the sacred basket could be displayed. This honoring of the local fetish is an essential part of the ceremony. At Archie, it will be remembered, four children danced to represent the patrons of the shrine. At Quitovaca the sacred basket is brought from its place in the hills and guarded for twenty hours by a woman. This basket supposedly contains the heart of a monster killed by I'itoi. The heart was in two portions, male and female, but "the male was stolen, and only the female is left." Therefore a female guardian is necessary. She must be past childbearing age and was chosen by the elders of the village, if possible from the same family as her predecessor. Like the child dancers at Archie, this woman must not leave the shelter during her hours of service and must eat nothing but a sup of corn-meal gruel three times a day. [287]

A little before sunset Sacramenta, the woman guardian of the bundle, went to the council house to receive it. The bundle is normally kept, not at the big house, but in a cave in the hills, since the Quitovacans say they fear its desecration by Mexicans. It is fetched on the day before the feast by a party of men, and taken back on the day after. The keeper of the smoke placed the basket on Sacramenta's head, and as she proceeded to the feast ground a man walked in front of her with a lighted firebrand. She placed the bundle on its rack and sat down in front of it. She was to retain the same upright position, with feet stretched out in front of her, for twenty-four hours. In the same shelter, just as at Archie, were the four scraping-stick musicians. These were to be subject to the same rules, except that they sat cross-legged in order to use the basket drum. 796

1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

317 Then they scattered seed, and it came forth.
484 A thick root came forth;
x539 A thick stalk came forth;
Great broad leaves came forth;
A fair tassel came forth,
And well it ripened.
Therewith were delightful the evenings;
Delightful the dawns.

Thus, indeed, should you think and desire, all you my kinsmen.(5)

SALT GATHERING AND SEA POWER

317 Akchin reached the salt beds on the day after viewing them from the peak. The procedure was brief, for the men had left their extra canteens several hours' march away and must reach them before night. As they neared the salt beds, the leader urged them to hurry. They dismounted without ceremony; grubbed into the earth for the long stones embedded there, and with them smashed salt lumps and proceeded to load them. As they did so, they adjured the salt: "Belight! We are going back to see the old women." (6)*

317 782 When each man finished loading his horse, he approached the leader. The latter had, laid out before him, the sacred corn meal, the peeled prayer sticks, and the newly cut scratching sticks, also a piece of red cloth (in old days one of the hand woven headbands). This cloth he tied to a large unfeathered stick, which he planted in sight of the sea, with the usual invocation. Then he gave to each man a pinch of corn meal in his left hand and a prayer stick in his right. He also gave him a scratching stick to tie on his belt, with the instructions:

10. I give you, as your property, this stick for scratching. You will run, and you will reach the water. You will see how it continually comes toward you. You will approach it, and you will throw corn meal; corn meal you will pour upon it. There will come another wave: you will throw corn meal. There will come another (wave): you will throw corn meal. There will come another (wave): you will throw corn meal.(6)

[827] * This refers to the old women who came out to meet the pilgrims on their return, begging for donations of salt.

1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

announce their arrival, as after a war party. The small boys came out to meet them with bull roarers,[11] which imitate the rain coming from the ocean. The old women came out in a group, begging: "Give me salt," and each man threw them gifts.

Each owned the salt which he had brought, except for two handfuls, which he must contribute to the common pile to be used for that evening's ceremonies. The rest he took to his house, where his family had spread a mat in the sun to receive it. Each member of the family took a handful, from which he breathed in to receive its power, and then the salt was dried; finally it was used or traded.

The family of each neophyte had prepared a shelter where he could pass the days of his purification, and his wife or mother made the new clay dishes which he was to use. An old man had been selected to act as his guardian. This man met him and conducted him immediately to the shelter, where he spent the day in sleep.

That night a public purification was held, for in this instance the sixteen days of retreat followed the purification ceremony instead of preceding it. Since the salt pilgrimage usually took place in summer, the ceremony was held out-of-doors. A fire was built to the east of the council house and in the intervening space was placed a pile of salt, to which each pilgrim contributed two handfuls. If the men brought tokens, such as seaweed and shells, these were ranged beside the fire and, in some villages, prayer sticks were placed with them.

At the north of the fire sat the older men who had made the pilgrimage more than four times and who needed no purification but were competent to purify others. They were the singers of the evening and were furnished with scraping sticks and basket drums. Opposite them, at the south, sat the returned neophytes while the spectators sat at the east and the shaman at the west, ouside the door of the ceremonial house.

POSITIONS AT SALT PURIFICATION

The keeper of the smoke had charge of the ceremonies. He first passed a ceremonial cigarette around the circle to the right, each

[11] Cf. Zuni, Stevenson, 1901–2, p. 354.

1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

Most women were discouraged from practicing shamanism until after childbearing age, and the prowess they could attain after such a late start never gave them important standing. As in White society, women doctors usually confined themselves to obstetrics and children's diseases.

Shamans did not always wait for a vision. The neurotic boy might receive one early and might or might not venture to follow it. The determined man would go to seek it. The usual possibilities of scalping, eagle killing, and salt gathering were open to him, and shamanistic dreams are reported from all these experiences. Scalping, however, usually brought war power and the salt pilgrimage, though very effective, was too infrequent. The simplest expedient was the killing of an eagle.

A shaman of the writer's acquaintance killed four successive eagles in as many summers while acquiring his power or, in other words, making up his mind to the hazards of a shamanistic career. The spirits of the dead birds came to him according to pattern, and the first merely told him how to make reed tubes for the game of hidden ball. He became a successful gambler, but, not satisfied, he tried again the next summer.

> The eagle came again looking like a man. He took me to a place where the sun lay on the ground, with a palisade of stakes around it. He said: "Get in." I did. Then we both stood in the sun. After that, we rose in spirals to the upper darkness. It was full of snakes. We passed through them and came to some houses, facing north. The guide asked me to sleep in one, but I refused. He said: "Where will you sleep?" I said: "At home." It seemed there was no way to get home, but the guide showed me a hidden gate. So I went out by it and home.

This vision gave the dreamer a conviction that he was fit for supernatural experiences. So, the next summer he killed another eagle. This time the visitant taught him a series of songs. They concerned supernatural experiences and were to be used to induce a state of trance, but did not refer to any special power.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

daylight hours. But there was also a division according to season and age. In summer, the older men did the farm work, with help from the young men and women at planting and harvest. The young men did some hunting, travelling, ditch building, house building and practiced for the races on which the old men bet. Women, in summer, gathered wild foods, the older women cooked and made baskets while the young ground corn and fetched wood and water. In winter the old men made rope, tools and weapons while the young men fought and hunted deer: the old women still cooked and the young ones were, as always, the wood and water carriers.

The distinction between young and old approached that in a modern society between laboring and employing classes. Heavy labor, everywhere, was done by the young, under the direction of the old. Young men had no voice in council or even in the planning of a war raid, an occasion when, in some Indian societies, they were so prominent. Young women did not manage their households. Youth was considered unfit for thinking and planning and, both in the household and the village, the commanding positions belonged to the old.

It was also the old who practiced the special crafts whose returns went beyond the scope of gifts and became commercial goods. The constant labor required of youth left little time for the long process of learning pottery, netting, mat plaiting, skin dressing and weaving by the Papago process of imitation and repetition. Men and women did not "sit down" to these crafts until middle age. Coiled basketry was the one exception to the rule, for baskets were a necessity and every girl had to learn enough about them to make one during her puberty seclusion. But the other specialties often were not begun until there were grown sons and daughters-in-law in the home to carry on the day's work.

Among the mens' specialties, deer hunting was the most common and was the only one practiced by young men. It meant a long apprenticeship beginning in boyhood and involving the learning of magic and the clever use of the deerhead disguise. One man in a family was sometimes the hunter while the others attended to the land. The other arts were tool making, weaving and skin dressing. The last two are handed over to women in tribes where all the men are busy with war and hunting. But young Papago women had a full time occupation as mere carriers and neither war nor hunting was a major occupation. The women's arts were the plaiting of sleeping mats and of ceremonial baskets, the netting and dying of the intricately made carrying net, the weaving of bands on the belt loom and the making of pottery.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

bargaining and the merchant looked upon his product somewhat like a ceremonial gift which was being reciprocated. The difference between it and a gift to relatives was that the exchange was supposed to be equal, with no effort of one giver to outdo the other, and that it established no relations for the future.

The most common gift of this sort was venison. Many families included no hunters at all so when a deer was butchered in the village, they would go and proffer a basket of beans or corn. The hunter, when he had distributed what was proper to his relatives, would "give" a piece to the donor of the beans. The latter never specified how much he wanted or from what part but accepted his share like a gift. The same thing is done at present with beef. Usually there was no opportunity for more organized trade for the family needed the whole product. However, I heard of two young men from a family of hunters (I, 1, A. 5, 17) who used occasionally to take their kill to a village where wheat was raised. The villagers had been told it was wheat they wanted and brought baskets of varying sizes, receiving what the hunters thought was their equivalent in venison. In the same way salt, saguaro syrup and melons or other special crops could be "given" to the neighbors. after family demands had been satisfied.

Barter for such luxuries as buckskin and cotton cloth had more of a commercial tinge, for here the purchaser had special needs and could not take any piece offered. Still, there was as little deviation from the gift pattern as possible. The purchaser brought his gift and stated what he wanted. The seller rarely asked for any different pay since the purchaser probably had but the one thing. If it was not enough, the seller reciprocated with poor skins or a small sized mat or blanket. If the gift was entirely too small he might send the buyer home to get something in addition. If it was still to small, he would not complain but would avoid dealing with him in future.

The dresser of deerskin was generally an old hunter who had an equipment of scraping post, tools and dying pots and who traded for his skins with younger men. For a skin, dressed and dyed, he expected corn and beans amounting to two bushels. For the trousers and shirts made later in Papago history, he might receive a horse.

Only a few old men in the whole country understood weaving, for very little cotton grew in Papagueria and since it was bartered from the Pima, the weaving was usually done by them also. But ocassionally a family who had been working for the Pima would take their pay in cotton. If they traded for it, the price for enough to make a blanket was half a sack of salt, a buck skin, a hair rope or

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

two baskets of beans and corn. Most old men knew how to spin cotton on the thigh and the purchaser's family might spin it or call in the neighbors for a working bee, giving them their meals meanwhile. If they brought raw cotton to the weaver, he got it spun in the same way. The chief articles made were large blankets to sleep on and narrower strips for womens' skirts. For the large blankets the price was a horse or its equivalent in produce or buckskin. The skirt the woman bought, herself, with a good willow basket of her own make.

Plaited baskets, plaited mats, netted carrying baskets and pots were made by elderly women, too old for the heavy work of corn grinding and food gathering. They were not such expensive articles as skins and cloth, an olla being worth enough beans or corn to fill two basket bowls while for a mat the measure was a winnowing bowl.

But besides this exchange among themselves, some Papago made a business of trading trips to the Pima, to Mexico and to the Yuma. These were a winter occupation on the same basis as hunting and sometimes combined with it. The Papago were homeless in the winter and many of them, instead of camping at the Well village wandered about trading their goods or their labor for enough to support them until the wet season came again.

Russell gives a list of the goods which the Papago, supposedly so poor, managed to get together for trade with the Pima. It includes giant cactus seeds, cholla fruit, agave fruit in roasted cakes and syrup, Rcat (wild potato), wild gourd seeds, small peppers, acorns from the Bellota oak, prickly pear syrup, baskets of agave leaf, sleeping mats, carrying baskets and fibre to make them, maguey fibre for picket lines, dried meat of deer, mountain sheep and cows tallow .... deer and beef, ... cheese, buckskin, livestock, red and yellow ochre, buff-colored ochre for baskets, salt.[1] What they wanted in return was food, principally wheat, which they themselves raised only in small quantities. But frequently their price was corn and beans enough to keep them alive. The people who used this expedient came from the northern villages, the Archie and Kuhatk groups and Káka, who were the Pimas' nearest neighbors. They often had relatives in the Pima country or at least friends and they pursued their exchange in the same manner they used at home.

The southern villages had their contacts with Mexico where they took principally dressed skins, cooked mescal from the mountains and their labor. They brought back knives and clothing and the knowledge of a more advanced culture than was to be found on the

[1] Russell pp. 93—94.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

The sticks were given to the Keeper of the Meeting who then called a council in which each of his households volunteered to take one of the sticks — two if necessary — and provide gifts for "the name". Everyone had been saving for this purpose since to give now meant not only blessing for his village but honor and good luck for himself, and return gifts next year.

In this way, there were gradually formed what might be called gift partnerships. A householder, having once selected a "name' as the recipient of his gifts, continued to take the same one, year after year. He called this vantage point among the strangers *nyi owih* (my opposite) and "felt toward him like a relative". It was an excellent device for securing friendly relationships in foreign territory.

The relation of opposities might continue for generations and very often led to marriage alliances. But it was more flexible than a kin tie and could be broken off if either party failed in his obligations. "If they didn't give much one year, we knew they had a poor harvest and we gave even more when it was our turn. But if they kept on that way, we knew they were stingy and we asked in meeting for another name" (26). But there was a good deal of latitude in choosing the names for new ones were always appearing and old ones dropping out. A householder might try some new name in addition to his regular gift partner, just to see how it worked out and often people threw out small gifts in various directions, as an overture to new relationships.

The visitors had a few payments to make on their side. As they danced, it was the polite thing for members of the host village, generally old women who were beyond shyness, to skip beside some chosen dancer. Then his parents would run out with a basket or ornament taken from the goods they expected to gamble next day. When the dance was over, all the women of the host village joined in serving cooked food to the guests. Then the householders made piles of their donations and each called out to his gift partner: "Come and get your pay over here." Some of the gifts remembered were:

Santa Rosa to Kuitatk (43)

Gift: One large winnowing basket each of cooked squash, cooked beans and ash bread.

Return: One winnowing basket each of dried beans and dried corn and six fresh pumpkins.

On the last occasion an entire stranger made overtures to the family with a sack of roasted corn and another with a jar of cactus

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

"Work hard," they were told, "and the magic serpent will come and show you designs for baskets." An informant had this experience, though she did not see the serpent.

"When I am making baskets, I hear a voice speaking to me. 'Put a cactus here. Put a turtle there. There, put a Gila monster.'" (26)

Women might acquire curing and, in the old days, rain-making powers after the menopause.

Some light is thrown on the psychological function of the dream by the experience of a woman informant which would seem to be typical. She had all her life observed a practice of midwives: pushing up the baby's palate to produce closure of the fontanelle (see p. 89). This appears to be an old Aztec practice.[1] Although the action was perfectly simple, the informant had never attempted it but in old age she took to dreaming. In one dream the Virgin Mary "and another lady" came and took her through a typically Papago visit to four pools, each guarded by a turquoise and each with a baby's head in it. The Visitants showed her how to spit on a shaman's crystal and touch the fontanelle, which then closed. When she awoke, she knew she could cure the baby's disease. She had no crystal but she did not trouble about it nor about the rest of the ritual. She proceeded to cure babies by pushing up the palate as she had seen others do. All she needed was the dream validation (26).

The Papago dream experience takes its place as a local version of the Guardian Spirit idea which is, in essence, a proclamation of the ability of the individual to attain eminence, regardless of his hereditary status. Such an idea is held both to east and west of the Papago, in varying forms.

The River Yumans, to the west, believed that power-bringing visions came by chance, in natural sleep, and, though an individual's whole success in life depended upon his dreams, he was powerless to induce them. Stated in modern terms, this reflects a belief in the innate superiority, perhaps also superior luck, of certain individuals. The subject of the dream was not an animal, as with the Papago, but a mountain or a supernatural being; sometimes merely a prophetic experience.[2]

On the Plains to the east, the vision was induced by efforts of the recipient, demanding a will power would see him through repeated

[1] Sahagun, Seler, pt. 9, sec. 8, p. 366.

[2] Kroeber, 1925, p. 754; Spier, 1933, p. 236; Gifford, 1933, pp. 303—4; Forde, 1931, pp. 182, 183, 189, 190.

3: Underhill E-5 (1931-1935) 1936
NU28 Papago NU28

yes, clubs and shields. And they dance with them in front of the men. They dance and they sing with those weapons, and they will not give them back until the men have paid them. 159x 727

We heard those girls run out, the girls who could run far. And when the men came near we saw the old woman go dancing out; the woman who takes the scalps. Foamy Water was her name; a woman who could not menstruate and hurt those powerful things. She took it when she was old enough from her mother who was called Painted Girl, because Painted Girl was so old she could not dance any more. [888]

But Foamy Water danced hard. They gave her the hair of the Apache, not scalps, just long hairs from the temples, and they gave her his beaded buckskin shoe. They had tied those things on a pole, and she came dancing with it into the village, dancing at every house. She came outside our house making the pole go up and down. She sang: 159x 727 887

[533]

Here I stand, singing for my prisoner
Come and see, Oh, women!
I dreamed that I saw light
At the tips of the warriors' feathers.

Then she stuck the pole in front of the council house and all the people went there to hear about the fight. It is the two messengers who tell that story before the fighters come, and sometimes after they tell about the killing, they end up: "But they got some of our men." Then they tell how they made a fire and burned up the dead men with everything they had. Because we dare not bury a man who died in the enemy's country. We must have fire to take away the power of the Apache. [766]

We thought if anyone was dead we would hear the crying. So my grandmother listened; she knew the women's voices. But there was no crying. So my grandmother cooked us our food, and she did not put any salt in it, because we were being purified. I sat by the house wall away from the fire and I was cold. I heard the men who had not killed come into the village, yelling and whipping their horses, and I heard everybody singing at the council house, stamping up and down: 159x 727 [263] 713

[533]

Poor crow. There it hangs. Poor crow.

They sang that way every night for all the days of purifying. It is a good thing to have the enemy's hair raised on a pole above our houses. It calls the clouds to it and brings rain on our land, and then the corn comes up. But those who have brought the blessing cannot dance. Not they and not their families. Leaf Buds' husband went out to meet my father and led

3: Underhill E-5 (1931-1935) 1936
NU28 Papago NU28

and I lived with them, and then we lived with our grandchildren. Thirty years my husband and I were together. He grew blind. He lay on his mattress all day long, and I had to pull it round the house to keep it in the shade. All the time he sang. He knew every song in the world, and he lay there singing in a low voice. Sometimes he slept in the day when it was warm and he sang in the night. We would wake up in the night and hear him singing.

Seven years ago he died. He said: "Now I'm going to rest and you shall rest, too." He meant I need not work for him any more, pulling that mattress around the house.

"But I won't come when I am dead to frighten you," he said. "Only when it's time for you to go. Then I'll come to call you. But not yet, I will not call you yet. First you'll hear some man say: 'I want to marry you'."

The next year I did. I had great grandchildren then, but still a man came and asked me to go to his house. But I was tired. I said: "No, I am too old. I cannot cook for you."

So I stay now with my grandchildren. Don't you think my baskets are good? I make them all day—all day long, and the young women do the cooking. While I work I hear voices: "Put a turtle there! Put a Gila monster here! Here put a zigzag." Then I seem to see a woman holding up the finished basket and I know how it will be.

I like to work at my daughter's house, at the Burnt Seeds. She has corn meal there and cactus seeds. I can eat when I live there, and every year I go with her to the drinking ceremony. They want me, for I can sing. But when I go to someone's house I have to stay a long time before I can walk back. It is not good to be old. Not beautiful. When you come again, I will not be here.

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29

Chapter IX

CULTIVATION AND UTILIZATION OF TOBACCO —A CEREMONIAL CROP[1]

Pi Pa 276 249 887

The growing of tobacco must be looked upon as ceremonial agriculture, and the smoking of it as an essentially ceremonial practice. It is, therefore, impossible to understand the cultivation of tobacco without taking this ritualistic aspect into consideration, and for this reason it is here considered apart from the growing of other crops.

Among both Papago and Pima, tobacco was regularly grown only by old, rather than young, men although any man had the presumptive right to grow it if he knew its culture and the song. There were two reasons for this limitation to old men—first, a man ordinarily had to be fully grown before he could use tobacco, second, having less to do, the old men had time to grow it.

The Traditional Origin of Tobacco

Pi Pa 773

Bernabé López[2] gave the following account of the origin of tobacco:

There was once an old woman who had a grandson and she told him that when she died he should take her out where the ground was soft, fertile, and where the water came down, and bury her, but not to let anyone see where he had buried her. He should then go back to the burial spot at the end of four days and he would see a small plant coming up on her grave. This he did, and again visited the spot at the end of another four days and found the plant had grown to a nice

[1] For the botanical aspects of Piman tobacco see Chaper IV.

[2] Bernabé López pointed out that his account of the origin, cultivation and smoking of tobacco applied to San Pedro and Coyote Papago villages, and that if we should get accounts from informants at other villages these would be slightly different in certain respects. Informants in general agreed that such inter-village differences existed.

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29

that smoking be done only with the reed grass cigarette, never with corn husks. This was true for both Papago and Pima. Lloyd[8] observed that the ceremonial pipes of reed grass had bunches of small bird feathers tied to them. Corn husks to be used for cigarettes were selected when the corn was being shucked, and by each man for himself; only the soft, white inner husks were saved, and these stored in an arrowweed basket. These cigarettes were six to eight inches long and tied at both ends with shreds of corn husk. Often the cigarette was not all smoked at one time, as tobacco was scarce.

Smoking was practically universal among older Papago and Pima men, but less common among women and practically forbidden for young men. By both tribes it was considered injurious to young men, weakening them, causing a cough, making them lazy and fat, or unable to stand cold and preventing them from being alert. They did not believe it injured old men in any way. A father's usual reply to his son who requested permission to smoke was, "I will let you smoke after you have killed a coyote." In modern times, this restriction as regards smoking by young men largely has broken down, particularly among the Pima.

Tobacco was not chewed nor used as an emetic by either Papago or Pima.

To both tribes, smoking was essentially a ceremonial performance, and it had to be tobacco *(Nicotiana)* that was smoked, for it was regarded as having power and no other plant possessed equal efficacy.

Ceremonial smoking in a circuit, using only the reed grass cigarette, was fundamentally similar among Pima and Papago, although differing in detail. It was done only on a few special occasions, such as a party preparing for war, deciding on going on a hunt, having a race with another village, or, in fact, a discussion of any tribal problem, and was regarded as an aid in securing supernatural guidance at

[8] Lloyd, *loc. cit.*

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

285 The lady of the house had in active use two of those
482 peculiar burden baskets called *kibo*, in which the women carry on their backs loads of wood, gourds, or pottery, as the case may be. It consists of an attractive looking net-work of mescal fibre, which has been produced from the leaves after they have been first boiled. The net is attached to a hoop which is fastened between four long poles of sahuaro ribs and is supported by a woven band of strips of zotol leaves that passes over the forehead. This contrivance is getting to be rare in the Papago
[492] country, with the introduction of mules and horses, and the woman who owns one is with difficulty induced to sell it. She spends considerable time in its manufacture, and in an old-fashioned family like the present it is of very great
302 usefulness in every-day life. The black twine was from her children's hair, which she cut once a year until they were about twelve years old. I expressed an ardent desire to buy one that was standing outside of the house against the wall, and, after having thought the matter over for a couple of hours, she decided to sell the most used one for five dollars, though she hated to do so; for an additional fifty cents she would mend the net-work and put in a new plaited band for the back and the head. The offer was promptly accepted.

361 Pablo and I made a tour of the houses of the ran-
124 cheria, some of them being three-quarters of a mile away.
[887] In two of them we found only old deaf women at home, the rest of the families being at the harvest of the savory cactus fruit. On our return, toward sunset, our Indian
513 friend and little Marianita were busily engaged in wash-

233 with this estimate Robert Roether, reservation cattle buyer,
433 is of the opinion that from 25 to 30 families own more than
434 100 head of breeding cows. Both of the above estimates are
422 higher than the estimate provided by the Bureau of Indian Affairs.

178 Agriculture. Life on the Papago reservations has
433 always depended, and still depends, upon multiple sources of family subsistence and income. The original pattern was a combination of hunting, gathering, and flood water farming. After 1700, hunting and gathering gradually gave way to cattle raising which, in combination with flood water farming, provided subsistence and some cash income. Farming is now declining and there is being established a new combination: cattle raising and wage work.

241 Flood water farming still persists, however, in spite of periodic drought, back-breaking work, and low
[462] yields. Wherever it occurs today it is usually an activity
[887] of older men who raise a small plot of corn, beans, squash,
[434] and sometimes winter wheat, to supplement their income from
[182] cattle, thus making it possible to live on the reservation the year around and according to the traditional Papago way of life.

Cash crop or commercial farming, as will be seen later, have not appealed to the Papago since competition from non-Indian farmers and the lack of running water require

241 311 178 farmed is now 3,930 acres. In other words, only 10 per cent of the land formerly used is now being put in crops.

It may be assumed from our survey, and from other evidence, that this situation holds true for the entire reservation. A current estimate of about 1,000 acres in flood water farming is probably fairly accurate.

241 433 178 The reduction in acreage is not surprising. The thing that is difficult to understand is that there should still remain two or three hundred individuals willing to endure the hardships and the failures inherent in flood water farming. In 1914 there were few off-reservation jobs, and fewer Indians willing to leave the reservation in search of work. Farming, however unrewarding, was required to sustain [887] life. This situation is no longer true except for some men, usually the older men, who cannot, or do not, participate in off-reservation wage work.

241 311 [434] [248] Irrigated Farming. During calendar year 1962, Papago Indian farmers grew crops on 740 acres of irrigated land on the main reservation at Chuichu and on 45 acres of irrigated land at San Xavier. Gross income was $94,755, more than half from approximately 120 acres planted in cotton.

241 311 178 Since 1952 the number of acres farmed by Indians at Chuichu increased from 530 to 1,360 (1957) but has now